

Transp. By Water 10

The
Great Lakes Grain Movement
Buffalo
and the
St. Lawrence Shipway

by
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Distributed to its Membership by
BUFFALO CHAMBER OF COMMERCE

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Robert W. Elmes is a member of the Chamber's Special St. Lawrence Canal Committee, a committee created "To study the St. Lawrence Ship Canal question with reference to its bearing on Buffalo's prosperity."

He is also Executive Secretary of the City Planning Commission, which body is required by the city ordinance creating it, in addition to its function as a planning body, "to keep itself advised of transportation rates—both rail and water—that generally affect the growth and development of the Port of Buffalo."

Mr. Elmes' analysis of the Great Lakes grain movement was given publicly for the first time in a brief form over the radio as one of a series of talks on the Economics of Buffalo, sponsored by the Courier-Express and the Buffalo Chamber of Commerce, in October of this year. The material has since been greatly augmented and, because of the interest in the subject at this time, the Chamber of Commerce is printing the details of the study for distribution to its membership.

The Chamber has never taken official action, either for or against the proposal for a St. Lawrence Shipway. The analysis by Mr. Elmes is presented as an entirely new treatment of the economics of the Great Lakes grain movement to the Seaboard for export, as he has gathered together an array of statistics and factual matters that make this a most important contribution to the further study of the St. Lawrence proposal.

BUFFALO CHAMBER OF COMMERCE

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Invaluable advice and co-operation were received from authoritative sources in Montreal.

Buffalo, Keystone of Great Lakes' Commerce Structure

THE job of getting grain to market for barter is as old as agriculture. Today, the world's greatest grain flow is down the Great Lakes in ships for export.

Buffalo is an integral part of this great maritime grain movement, as over half of it stops off here for further distribution to the Seaboard and for local consumption in the manufacture of flour.

Because Buffalo, more than any other lake port, is the keystone in the transportation structure of the Great Lakes grain movement to the Seaboard, this City is in an authoritative position to say what the real facts are regarding the economics of the proposal for shipways to the sea from the Great Lakes.

This analysis in tabloid form, covers the purely economic phases of the Great Lakes grain flow. There is no attempt to present or to discuss the engineering features in the proposals for the St. Lawrence project.

ADMINISTRATION'S NATIONAL WATERWAYS' PROGRAM

The Administration's program for the construction of a system of internal waterway projects, to cost when completed three or four times as much as the Panama Canal, was outlined by President Hoover in an address October 23 at Louisville, Ky., at the celebration of the nine-foot channel of the Ohio River from Pittsburgh, Pa., to Cairo, Ill. He also enunciated the policies by which he will be guided in waterway developments.

Mr. Hoover favored a broad policy for the modernization of every part of the Nation's waterways "which will show economic justification in aid of our farmers and industries."

President Hoover's program for waterway development over a period of from five to ten years embraces the following projects:

Establishment of a nine-foot channel in the Mississippi trunk system and a six-foot or seven-foot channel in the Mississippi's tributaries as fast as traffic justifies it.

Completion within ten years of 1,000 miles of additional intra-costal canals.

Continued improvement of the Great Lakes' channels and works necessary for stabilizing the lake levels.

Removal of obstacles to construction of the St. Lawrence River waterway project.

Maintenance of the development of the Nation's harbors and littoral waterways.

THE PORT OF BUFFALO

Buffalo is a great manufacturing port, the steel mills and pig iron producing plants alone accounting for 6½ million tons of its waterborne commerce. It is the third largest receiving port of the western continent. Buffalo, during 1928, ranked third among ports handling *foreign* commerce in excess of 100,000 long tons, according to a survey which has been completed by the U. S. Shipping Board. Buffalo's total 1928 foreign commerce was 6,700,588 long tons.

In ranking third in foreign trade during 1928, Buffalo outdistanced such ports as Los Angeles, Baltimore, Philadelphia, Houston, San Francisco and Boston. Buffalo was exceeded only by New York, which was first, and New Orleans, which was second.

Of the total Buffalo 1928 foreign tonnage, the city ranked second in imports, which totaled 4,833,615 tons. The remainder of the Buffalo 1928 total tonnage included 1,866,973 tons of exports, which gave Buffalo seventh place as an export city. The commercial tonnage of the Port of Buffalo, domestic and foreign, for 1928 was 23 million tons, valued at \$660,000,000.

The receipts of grain from upper lake ports are between 250,000,000 and 300,000,000 bushels annually.* Eighty-five per cent of the anthracite coal for uplake shipment is handled at the Port of Buffalo.

The Port of Buffalo is unique in that this tremendous commerce is handled across its docks with an entire absence of labor troubles. Buffalo, today, is the greatest package freight handling port of the Great Lakes.

The port is a great focal point of water and rail transportation, steam transportation being the city's largest single industry. Within the city limits, there are over 20,000 employees on steam railroads. This does not include those living in nearby towns and cities. The payrolls of the steam railroads average more than \$3,000,000 a month.

Buffalo ranks as the world's greatest grain distributing center because here grain is transferred, at present, to the Welland Canal type steamers for Montreal, some to the Barge Canal carriers, more going by rail to North Atlantic seaboard ports than by any other carrier. One hundred twenty-five million bushels of grain going to the seaboard for export means that the great ports of New York, Philadelphia and Baltimore are dependent upon Buffalo very largely for the grain received at those ports, which are served by five great trunk lines radiating from Buffalo to the North Atlantic Seaboard—the New York Central, Erie, Pennsylvania, D. L. & W., and the Lehigh Valley. The Buffalo Chamber of Commerce has made recommendations to the Interstate Commerce Commission that the B. & O. be permitted to acquire the Buffalo, Rochester & Pittsburgh Railway, thereby giving Buffalo one more direct trunk line to the great Port of Baltimore. The amount of grain going forward to the seaboard from Buffalo every year is the equivalent of a solid train of loaded grain cars reaching from Buffalo to New York and return as far as Syracuse.

Grain is a basic cargo which attracts ocean commerce and it is a most desirable commodity for ports. Hence, Buffalo's importance to those seaboard ports.

* The season of 1929 will show a drop of over 100 million bushels due to lack of world market for wheat.

WHEAT PRODUCTION

The measures for farm relief before Congress are based fundamentally upon the fluctuating price of grain with particular reference to wheat. This country produced last year 914,876,000 bushels of wheat. The five-year average is 809,668,000 bushels. This production is for a population of 120,000,000 people. Our surplus is exported, but in the world's markets our exportable surplus must compete with that of Canada, Argentine and Australia.

In the crop year ended July 31st, 1928, Canada ranked first among the wheat exporting countries of the world, accounting for over 40 per cent. of the total exports as against 20 per cent. by the United States, and 24 per cent. by Argentine. She ranked second as an exporter of wheat flour. As an exporter of wheat and flour combined, the Dominion has no rival.

The Dominion exports between 75 % and 80 % of the wheat grown in that country. The world's greatest wheat belt is in the Prairie Provinces of Canada where, last year alone, over 500,000,000 bushels of wheat were raised. This amounts to 96 % of the entire Canadian wheat crop. Thus it is seen that the Canadian production, raised by a country of less than 10 million population, was nearly 60 % as great as our production for a 12 times larger population.

Of all the grains, wheat is the one commodity in universal world demand. The world's greatest flow of wheat from producing regions is concentrated on the Great Lakes, where last year 415,510,000 bushels were moved from the head of the lakes to lower lake points and Montreal. Seventy-five per cent. of the total wheat movement was Canadian.

The map visualizes this tremendous flow of grain down the Great Lakes. Of the total grain movement of 576,000,000 bushels, 385,000,000 bushels—or 67 % of the total came from the greatest originating point on the Great Lakes—the Canadian twin ports of Port Arthur and Fort William.

Buffalo received in 1928, 279,000,000 bushels of all grains, the major portion (64 %), of which was Canadian. The American production of grain for movement down the Great Lakes is becoming each year a smaller percentage of the total. Canadian grain dominates the movement on the Great Lakes.

Due to climatic conditions, wheat in this country begins to move about 30 days before the first movement in Canada. When the large crops of both countries are in full movement, shippers take advantage of all transportation facilities, resulting in grain from both countries reaching the seaboard through both U. S. and Canadian ports.

Canada exported for the crop year ended July 31, 1929, as wheat or flour, 408,564,000 bushels. Over three-quarters of the Canadian overseas movement is from Atlantic ports, Canadian and United States.

The Hudson Bay railroad, from the heart of the Canadian wheat belt to Fort Churchill on Hudson Bay, is nearing completion. It is estimated that the capacity of this route will be from 14 to 24 million bushels of grain annually.

CROP MOVEMENT

When the great grain crop of western Canada goes to market by rail, it splits two ways—one portion reaching the Pacific for the Orient and Europe, through the Port of Vancouver. Vancouver in 1920 shipped practically no grain. In the calendar year 1928, grain exports from that port were in excess of 97 million bushels.

Port of Vancouver now ranks first among the ports of the Pacific Coast. It has now outstripped San Francisco and Los Angeles in volume of inward and outward traffic and tonnage of exports and imports.

The remaining and major portion of the wheat crop from the Prairie Provinces reaches lakehead at Fort William and Port Arthur. From there, as will be seen on the map, over 385 million bushels of grain moved down the Great Lakes. There is a "breakoff" from the main flow to what are called the Bay Ports on Lake Huron. Nearly 103 million bushels were handled through elevators at those ports, where the grain was transferred to freight cars for Canadian and U. S. ports of Portland and Boston for export. However, of this 103 million bushels, between 14 and 18 million remain in Canada to be manufactured into flour.

WHEAT ACCUMULATION AT GREAT LAKES PORTS

Today there is a stagnation of the wheat flow to Europe from the United States and Canada, due to the large "carry over" from the last year's world supply and also due to the fact that the Argentine price cut piled up in the United States and Canadian ports and elevators, enormous stocks of wheat that are being held for world's markets. This condition has not been duplicated in the history of the grain movement.

With nearly half of the world shipments supplied by the Southern Hemisphere, North American exports have been comparatively small and stocks have accumulated to nearly 400,000,000 bushels in the U. S. and Canada, compared with about 190,000,000 bushels in store at this time last season, according to the Bureau of Agricultural Economics. This increase in stocks, particularly in the United States, has been largely responsible for the decline in wheat prices.

Also, the Bureau of Agricultural Economics on October 26, states:

"Native wheats continue to be offered freely in European markets and export shipments of Danubian wheat to date have been much larger than in recent years. The ample offerings of wheat in Europe have been reflected in a sharp decline in Liverpool futures prices and also in quotations on foreign wheats.

"At the close of the week 63½ pounds Argentine wheat afloat was quoted in Liverpool at \$1.16¼ compared with \$1.30¾ for No. 5 Manitoba."

Latest advice from the Bureau of Agricultural Economics in a report to the Federal Farm Board on November 22, states that although there has not yet been any marked increase of exports of grain, the congestion of elevator terminals appears to have passed its peak. "The inadequacy of the present terminal storage to meet this year's needs should not be taken to indicate that a general program of building more terminal grain storage space should be entered upon."—"The carry over of grain from the past year has been the largest ever known and has created a very unusual situation."—"It is not likely that so much elevator space will be needed again for many years and any great increase in elevator space is likely to result in large operating losses for elevators during the coming years."

THE RAIL ROUTE FROM PRODUCING AREAS TO PRIMARY MARKETS

In touching upon the rail movement through Canada, it must be borne in mind that Canadian farmers can get their wheat to its outlets much more cheaply than can U. S. farmers. Grain rates from Western U. S. points to purely U. S. lake terminals are materially higher than from Western Canadian points to lake terminals, these rates in some cases being as much as 50 per cent. higher. Testimony recently presented to the U. S. Tariff Commission showed that a bushel of wheat in Canada could be carried nearly twice as far for a cent as in the U. S. It was developed, in the testimony, that U. S. farmers receive about 15 cents per bushel less for their wheat than do Canadians. Furthermore, the wheat production per acre in 1928 was 15.6 bushels in the U. S. as contrasted with 22.1 bushels in Canada.

Figures from the Interstate Commerce Commission, in an analysis of the 1927 Canadian rate cut, show that: The tax assessment upon U. S. Railroads in 1926, computed upon a per mile of road basis, was six times the tax assessment for Canadian railroads. In Canada, practically all the railroad mileage is made up of two systems, one of which is owned by the Government. A recent report prepared by the Association of Railway Executives and based upon the Interstate Commerce Commission analysis, shows that:

"American railroads pay annual taxes of \$1,519.72 per mile of road.

"Canadian roads pay only \$235.75.

"With the same governmental policy (in the U. S. as in Canada) in respect to subsidy and taxes, Class I railroads in the U. S. could have handled all grain, flour and meal, and livestock wholly free of charge and still have retained annually \$403,332,826 more revenue than they did retain in the period 1923-27.

"The western roads could have handled the same farm products wholly free of charge and still have retained annually \$139,825,569 more revenue than they did in the period 1923-27."

The Canadian Government owns the Canadian National Railways and operates the system at a loss. The deficits have to be met out of the public treasury and are equivalent to a government subsidy.

The tendency of the political subdivisions of the states to assess in this country as contrasted with the Canadian policy is illustrated in the City of Buffalo where railroads are assessed at nearly \$105,000,000, which is 10 % of the city's total assessed valuation of \$1,085,000,000.

The high assessment for tax purposes of railroads in this country of necessity keeps up the freight rates on commodities moved by rail and frequently a resolution is introduced in Congress by one of its members, demanding to know why railroads cannot carry grain and other agricultural products as cheaply in this country as in Canada.

TAXES—The taxes paid by the Class I railways in 1928 consumed 6.37 per cent of the entire gross operating revenues of these lines. This is the highest figure reached in any one year, the result of the steadily upward trend which has existed since 1923.

The amount of each dollar of revenue consumed by taxes is shown below for the Class I lines:

1911	3.58 cents	1924	5.75 cents
1916	4.37 cents	1925	5.86 cents
1920	4.40 cents	1926	6.09 cents
1921	5.00 cents	1927	6.13 cents
1922	5.42 cents	1928	6.37 cents
1923	5.28 cents		

DIVIDENDS—The average cash dividend rate paid by the Class I railways of the country in 1928 amounted to 5.3 per cent. Although this is a relatively modest figure, it represents, with the 1927 average, the highest figure for recent years, the cash rate paid from 1920 to 1926 varying from 3.7 per cent to 5.2 per cent. The 1911 average, however, was 6.0 per cent. The railway average cash dividend rate is shown below for the Class I lines:

1911	6.0%	1924	4.2%
1916	4.4%	1925	4.5%
1920	3.8%	1926	5.2%
1921	4.1%	1927	5.3%
1922	3.7%	1928	5.3%
1923	4.0%		

FREIGHT RATES—There has been a downward tendency in the level of freight rates ever since 1921, the 1928 average revenue per ton-mile being 15 per cent lower than that received in 1921. The actual figures for the Class I roads are shown below:

1921	1.275 cents	1925	1.097 cents
1922	1.177 cents	1926	1.081 cents
1923	1.116 cents	1927	1.080 cents
1924	1.116 cents	1928	1.081 cents

REVENUE TONNAGE—The detail of the 1928 revenue tonnage originating on the lines of the Class I railways is shown below by general classes of commodities:

Products of agriculture	118,021,911
Animals and products	25,633,848
Products of mines	696,583,097
Products of forests	96,736,937
Manufactures and miscellaneous	312,013,252
All less-than-carload freight	36,953,931

Total1,285,942,976

IMPROVEMENTS—In the last seven years, the Class I railways of the country have spent almost five and one-half billion dollars in enlarging and improving their properties. These enlargements and improvements were made by the roads to keep pace with the growth of the country and to increase the efficiency and economy of railway operation. By years, these expenditures were made as follows:

1922	\$ 429,273,000
1923	1,059,149,000
1924	874,744,000
1925	748,191,000
1926	885,086,000
1927	771,552,000
1928	676,665,000

Total, 7 years\$5,444,660,000

From 1929 Yearbook of Railroad Information compiled by Committee on Public Relations of the Eastern Railroads.

SENATE INVESTIGATION OF GRAIN DIVERSION TO CANADA

In response to Senate Resolution 220, introduced by Senator Walsh of Massachusetts May 3, 1928, asking for an investigation to determine the factors which are resulting in a diversion of U. S. Grain to Canadian ports, the Departments of State and Agriculture and the Interstate Commerce Commission submitted on January 29, 1929, a joint report, in which the whole question of diversions was exhaustively gone into. The joint report in that part referring to grain, shows that:

"The average annual exports of all Canadian grains from U. S. North Atlantic ports during the past five years (1922-23 to 1926-27) have amounted to 135,296,000 bushels while the average annual exports of wheat alone have amounted to 106,128,000 bushels, or approximately 56% of the annual average exports of Canadian wheat to overseas countries from the Atlantic Seaboard.

"One of the most important factors, perhaps, that determines the volume of Canadian grain moving via the United States is the size of the Canadian crop. It is well to keep in mind that the amount of grain that can be handled at the Canadian ports during a given time is limited largely by the physical equipment and shipping facilities.

"When the Canadian crop is small, or around the average, the Canadian ports will handle a relatively larger proportion of the total crop than when the crop is large. In any event, a certain amount of grain will move through the United States, so that a large crop also usually means larger volume moving through the U. S. to seaboard.

"The fact that the Great Lakes and the ports of Montreal and Quebec are closed to navigation during the winter months, coupled with the larger volume of ocean tonnage available at New York and other Atlantic seaboard ports, explains the large movement of Canadian grain through our ports.

"The Ports of New York, Philadelphia and Baltimore are the principal grain export centers on the North Atlantic seaboard. In some years a moderate volume of grain also moves through the ports of Boston and Portland, Me. The port of New York leads all other U. S. ports in the volume of grain exported. The bulk of the grain that is exported from the Port of New York, as well as Boston and Portland, Me., is of Canadian origin.

"In 1927, the exports of Canadian wheat from the port of New York amounted to 68,872,000 bushels. This was more than double the exports of domestic wheat from all of the North Atlantic ports combined."

UNITED STATES VS. CANADIAN FACILITIES FOR GRAIN MOVEMENT TO ATLANTIC SEABOARD

It is obvious that Canada is going to provide every possible facility for securing within her own borders every advantage applicable to the transportation of her agricultural and other products—particularly wheat. After the opening of the new Welland shipway, there should come to Buffalo, as in the past, and for the same reasons, such quantity of export wheat of Canadian origin which cannot be stored and reshipped from Montreal during the winter months or for which the Port of Montreal does not furnish the necessary ocean service.

It is clearly evident that it would be a waste of effort to attempt to divert to the transportation lines between Buffalo and New York, rail or water, any portion of this tremendous wheat flow which the Canadian lines themselves have facilities for handling.

It is very probable that the amount of Canadian grain, principally wheat, which has moved to Buffalo in years past for elevation, transportation

and exportation, will come to Buffalo hereafter in much smaller quantity, or at least in smaller percentage. Canada, in 1928, raised a crop of considerably over a half billion bushels of wheat (566,276,000) and has undeveloped suitable lands for practically doubling this crop in the Prairie Provinces. As increased production in Canada occurs, the transportation facilities of Canada may not keep pace and, therefore, there may come to Buffalo, merely because Canada cannot handle it, a very large quantity of Canadian wheat for several years to come. Some recognized authorities in the grain field here in Buffalo are of the belief that not one bushel of it will be attracted to Buffalo by an enlarged Erie Canal or by lower rates on grain from Buffalo to the seaboard.

The key to the grain movement down the Great Lakes to the North Atlantic seaboard is this: *That the waterways of Canada and the character of control of the common carriers of the Dominion are such as to enable it to instantly meet any rate competition and to prevent any diversion of its traffic by any lowering of rates or costs of transportation within the United States.*

The amount of U. S. grain coming down the Great Lakes in this stream, which is graphically depicted on the map, and originating at Duluth, is a very uncertain factor. In general terms, our Northwest, with the growth of diversified farming, is no longer a wheat exporting area, excepting in respect to durham wheat, which is a variety used for the manufacture of semolina, which in turn is converted into macaroni, spaghetti and other such pastes. Less than 25 % of our total crop of durham wheat, all raised in the northwest, enters into domestic consumption in the form of the pastes referred to, and in cereals or breakfast foods, for which purpose durham wheat is used to a limited extent. Practically 40,000,000 bushels of our Northwest durham wheat are exported and it will continue in this stream down the Great Lakes until there is a readjustment by which Russia will again supply this particular type of wheat to the consumers in southern Europe and along the shores of the Mediterranean. Because of the situation in Russia, we are growing and exporting this type of wheat today. The movement of grain by water from Lake Michigan ports (U. S.) has been decreasing for years and excepting under most unusual conditions, the quantity originating at Lake Michigan ports must steadily decline and be a very small factor in the whole situation.

The great grain producing fields of this country have moved into the Southwest. We are not exporters of corn. The 1929 Department of Commerce Year Book states that exports of corn and oats are relatively insignificant as compared with domestic production. Our 1927-28 exports of corn were one-half of one per cent. of domestic production. The wheat surplus which is exported does not come from areas tributary to the Great Lakes and in view of all this, there seems to be nothing in the history of grain trade of the past, or promise of the future, that warrants any investment in ship canals, — All-American, All-Canadian or American-Canadian through the State of New York or down the St. Lawrence River.

Much oratory and a tremendous sum of money have been expended by the Great Lakes-St. Lawrence Tidewater Association (which is a voluntary association of 22 member states from the mid-west), in the endeavor to sell

the plan to make the St. Lawrence River navigable for the larger-sized ocean-going vessels.

However, the mid-west is not a unit in demanding the St. Lawrence route.

In an address before the Mississippi Valley Association this summer, J. C. Nichols, Vice-President of the Missouri River Navigation Association, presented sound arguments showing that the Mississippi afforded a direct route from 26 states to the Gulf of Mexico.*

The Department of Agriculture estimates that 58% of the wheat crop of the United States was raised in the Missouri River section in 1927, 55% of the rye crop and 37% of all oats.

Governor Arthur J. Weaver of Nebraska, in a recent published statement (United States Daily) reciting the need of adequate waterways to produce cheap transportation for the farmer, emphasized the importance of and the necessity for the early development of the Missouri and Mississippi River route to the sea.

Governor Weaver stated that the development of our inland waterways is imperative for the future growth and prosperity of both the agriculture and industry of the middle west. He said:

"One of the major factors in the solution of the farm problem will be the benefits which will come from the completion of the Mississippi Valley system of waterways.

"With the entire Mississippi River now in operation, with the connection of Lake Michigan with the Mississippi through the Chicago Drainage Canal and the Illinois River, and that part of the Missouri River from St. Louis to Kansas City to be completed by 1931, the system is almost complete.

"Because of the location of the upper Missouri River, now a recognized project to Sioux City, Iowa, through the heart of the great agricultural West, intensive work, demanded by a united public opinion in the Middle West and of neighboring States, should be undertaken so as to bring transportation relief to a section which has the longest haul and the highest freight rate of any agricultural country in the world."

President Hoover in his Louisville address, said, in commenting upon improvements in the Mississippi River and tributaries:

"The Administration will insist upon building these waterways as we would build any other transportation system—that is, by extending its ramifications solidly outward from the main trunk lines. Substantial traffic or public service cannot be developed upon a patchwork of disconnected local improvements and intermediate segments. Such patchwork has in past years been the sink of hundreds of millions of public money.

"We should complete the entire Mississippi system within the next five years. We shall then have built a great north and south trunk waterway entirely across our country from the Gulf to the northern boundaries, and a great east and west route, halfway across the United States. Through the tributaries we shall have created a network of transportation. We shall then have a dozen great cities into direct communication by water, we shall have opened cheaper transportation of primary goods to the farmers and manufacturers of over a score of States."

* Millers Review, Aug., 1929.

ERIE BARGE CANAL

To divorce the Barge Canal from all sentiment and historic association and consider it in the light of a present-day waterway, I am quoting from an article in the June, 1929, "Port and Terminal," by Albert H. Moore, Traffic Agent, New York State Division of Canals and Waterways. The Moore article is captioned, "In Defense of the New York State Barge Canal":

"As to the present waterway, let us be perfectly frank and admit at the outset that the New York State Barge Canal, including terminals, has cost approximately 175,000,000 dollars; that the annual cost (using 1925 figures), is around \$10,000,000; and that the amount of traffic transported thereon has fallen short of expectations.

"The item of annual cost is made up of something over \$6,000,000 for capital charges, about \$3,000,000 for maintenance and operation, and the balance for permanent betterments and claims. If the canal were scrapped today, the capital charge cost would continue for many years, since canal bonds were generally issued to run fifty years."

Therefore, with the total cost of reconstructing the State Canal System, up to 1925, including terminals, at \$175,000,000 to which should be added the cost of carrying the bonds, and the maintenance, the total cost of the State Barge Canal System is over 230 million dollars, since the first appropriation of \$101,000,000 in 1903.

Of the 3,089,998 tons moved over the State Barge Canal System in 1928, 82% was carried over the Erie Division. Therefore, if we take 82% of the total cost to the state for its Barge Canal system and apply it to the Erie Division, we find over 188 million, as the expense of the Erie Division alone.

The 1928 tonnage was 20% increase over the previous year. Each year the State's Canal System is carrying a very encouraging increase in traffic.

That the waterways of New York State have been and still are an active influence in determining the level of railroad freight rates between competitive points is accepted by those familiar with the various rate adjustments throughout the country. In the evolutionary process of rate construction, from the time that the first railroads were completed, it was necessary to consider water competition. This is not only true of rates on commodities that were and are especially adapted to the waterways, but this actual or potential water competition has influenced the level of rail rates on other commodities as well. The savings to New York State shippers and others who have not made actual use of the waterway routes are problematical, but shippers through New York State have had, and still have, the advantage of shipping over rail routes between points not contiguous to the canal at rates reflecting canal competition.

It is held that the savings and advantages to the shippers of the state have more than justified the expense of providing and maintaining this waterway system.

At the Buffalo Terminal of the Barge Canal, the New York Central Railroad makes an arbitrary supercharge of \$8.50 per car, over and above the switching charge, for all cars interchanged at that terminal. This is tantamount to a discriminatory charge against the Barge Canal. It should be reduced to a more equitable figure in order to promote the interchange of traffic between canal and rail.

With the deepening of the Hudson to Albany by the Federal Government, and the creation of port facilities by the City of Albany, it is essential that that investment be also protected by the further development of the Barge Canal from Buffalo to Albany.

Senator Royal S. Copeland, speaking for the New York State delegation at the National Rivers and Harbors Congress in session at Washington, December 10 and 11, advocated an All-American waterway through New York State to the Hudson River from Oswego.

Hon. S. Wallace Dempsey of Lockport, Chairman of the Rivers and Harbors Committee of the House of Representatives, told the National Rivers and Harbors Congress of the necessity of having a 12-foot navigable depth for the Erie Barge Canal from Buffalo to the Hudson.

Congressman Dempsey urged support of the 12-foot uniform depth for the Erie and Oswego Canals in New York State as a temporary means of giving the Great Lakes an outlet to the sea at minimum expense. He stated that the 12-foot navigable waterway could be completed in one or two seasons at the cost of but two years' interest charge on either of the two great proposals for deep water shipways to the sea from the Great Lakes—i. e.—the St. Lawrence and the proposals for a ship canal across New York State from Lake Ontario.

This improvement to the Barge Canal, i. e., giving it a uniform depth of 12 feet as against an existing 10-foot loading depth, would increase the carrying capacity of canal barges from 1000 to 2000 tons, resulting in a considerable reduction in carrying costs.

Providing a uniform depth of 12 feet for the Erie and Oswego Canals will furnish an immediate outlet to the sea, which, while other projects are being discussed, can be put into immediate use.

MOULTON ANALYSIS PROVES ST. LAWRENCE PROJECT ECONOMICALLY UNSOUND AS A NAVIGATION PROPOSAL

The 700-page work, "The St. Lawrence Navigation and Power Project," by Harold G. Moulton, prepared for the Brookings Institution of Washington, D. C., in its thorough analysis of the St. Lawrence project, supports convincingly Buffalo's contention that the St. Lawrence as a navigation project, is economically unsound.

Randall J. Le Boeuf of the New York Tribune, on November 3d, in his review of the Moulton work, states: "*It presents the results of a careful independent study of the fundamental economics of the proposed St. Lawrence Waterway. The authors show that only a thirty-three foot channel, much larger and more expensive than any planned by either U. S. or Canadian engineers, could accommodate the first-class vessels which proponents of the waterway have assumed would use it.*"

Dr. Moulton is a distinguished economist and his analysis shows that the cost of the proposed waterway has been greatly under-estimated; and

that the route would be of negligible value in affording relief to the American farmer, whereas the overhead costs borne by the taxpayers would be entirely out of proportion to the gains to shippers. This book is recognized as representing the most complete and authoritative study of this great inland project that has appeared.

BUFFALO OPPOSED TO ST. LAWRENCE AND AMERICAN SHIPWAYS

As the major portion of the Great Lakes grain movement is Canadian (67 % in 1928), and with the Canadian percentage of the whole constantly increasing, it is clearly evident that the proposed St. Lawrence or All-American Shipways to the Sea are bound to be of a great deal more benefit to the Dominion of Canada than to this country.

The City of Buffalo and the Erie County Board of Supervisors took formal action early this year in opposing both the St. Lawrence and the American Shipways, and advocated the further development of the Erie Barge Canal.

THE AMERICAN ROUTE

The All-American Canal from Oswego to the Hudson calls for a 160-mile restricted shipway, utilizing the eastern portion of the Erie Barge Canal from about Syracuse, the cost estimated by U. S. Engineers being 506 million dollars. This is sponsored by "The Great Lakes-Hudson Waterways Association," created by Col. Edw. C. Carrington, who is Chairman. Carrying out the Carrington idea would make into a useless thing that part of the Erie Barge Canal from Buffalo to Syracuse, and is considered an unsound economic and navigation proposal. It has been reported against by U. S. Engineers.

WOULD THE AMERICAN FARMER BENEFIT FROM A REDUCTION IN TRANSPORTATION COSTS TO THE SEABOARD?

The argument advanced for the development of the St. Lawrence project is that a direct route to the Seaboard will effect a reduction in the cost of transportation and that the western farmer will benefit.

The facts are: *No one can say authoritatively to what degree, if at all, the farmer would benefit from the reduced cost of transporting products of the farm to the world markets as a result of a St. Lawrence Shipway.*

In the first place, the amount of grain produced by the American farmer and arriving at primary markets at the head of the Lakes amounts to only one-third of the total movement down the Great Lakes. Even this third will be cut down when Russia comes back, as an exporter of wheat of the type now moving down the Great Lakes from U. S. primary markets for export.

On the basis of the total amount of wheat in the Great Lakes movement, the American farmer supplies but one-quarter, the Canadian farmer three-quarters.

The Canadian farmer can, by reason of cheap land, low taxes and low grain rates, raise grain cheaper than can the farmer in the United States, and can, furthermore, get it to both eastern and western markets at much lower cost.

The Senate Committee on Agriculture recently made a close investigation into the wheat growing and marketing industry of Western Canada. H. J. Beasley, in charge of the grain division of the United States Department of Agriculture, states that in the world market, Canadian wheat was worth from 5 to 10 cents per bushel more than United States wheat of the same comparative grade, due to the general opinion of world buyers as to the excellence of Canadian wheat.*

The following editorial from the *Traffic World* of March 30, 1929, is quoted in part, in proof of the statement that no one can say who profits from a reduction in transportation costs:

"It seems probable that there is no transportation question of importance that admits of more confusion than that of who pays the freight charges on farm products. On the one hand, it is stated that the farmer does; on the other, the ultimate consumer. And there is a variety of graded answers in between to the effect that each pays part. Nothing is more convincing of the complexity and stubbornness of the problem than a serious effort to get a conclusive answer.

"An attempt will not be made herein to present such an answer, but only to point out that, to date, none has been given, and to survey in a general way the facts involved and the various contentions based on them.

"In the hearings in the grain part of docket 17,000 before the Interstate Commerce Commission, which involves all export and domestic rates in western territory, the question appeared in a variety of forms, running through the 53,000 and more pages of record like a refrain. Pursuit of an answer led the parties to that proceeding through endless paths and by-paths of market practice, economic theory of prices, world competition, historical data, and detailed accounts of the personal experience of buyers and sellers of grain."

WELLAND SHIP CANAL

According to latest advice, the new Welland Ship Canal is to be completed and ready for traffic in August, 1930. It is one of the great engineering projects of today, estimated cost \$115,000,000.

This ship canal permits passage of the largest lake vessels from the Upper Lakes to Lake Ontario. It is a little over 25 miles long and is 310 feet wide at the water line. It possesses locks capable of accommodating 30-foot draft vessels and a 25-foot canal which can be readily deepened to the 30-foot draft. There are seven locks, 800 feet long and 80 feet wide.

The completion of the new ship canal will chiefly affect the transportation of Canadian grain from the west for export. Briefly, it will mean that large Great Lakes ships up to 24-foot draft carrying grain from Fort William

* From *Agricultural and Industrial Progress in Canada*, June, 1929.

and Port Arthur will be able to go up the St. Lawrence as far as Prescott, 115 miles from Montreal, and there unload their cargoes of grain for transfer to the 14-foot draft steamers for the Port of Montreal. By treaty, U. S. shipping has equal rights with Canadian in the Welland Ship Canal.

The opening of the new Welland Ship Canal and the construction of elevators at Toronto, Kingston and Prescott will have this effect upon the commerce of the Port of Buffalo: Grain en-route to Montreal that has been, heretofore brought to Buffalo in large vessels for transfer at Buffalo elevators into the 14-foot draft Welland Canal type steamers, with the opening of the new Welland, will go direct to Kingston or Prescott for transfer there for Montreal, instead of to Buffalo, as at present.

This is an elevator transaction. Buffalo's port figures will show a reduction, therefore, in the total amount of grain transhipped at Buffalo for Montreal.

Although the New Welland Ship Canal will open up Oswego on the easterly shore of Lake Ontario to all Great Lakes shipping, the lack of a comprehensive and co-ordinated railroad distribution system will limit the possibilities of that port as contrasted with Buffalo.

DESCRIPTION OF THE ST. LAWRENCE

The St. Lawrence for its first 115 miles marks the boundary between two countries—between New York State and Ontario. This is called the International section. This International section is divided into two parts for descriptive purposes. The first section from Lake Ontario to a point three miles beyond Ogdensburg, N. Y., and Prescott, Ont., is termed the Thousand Islands section. This is a deep, slow moving River Channel.

With the creation of the Canadian nationalized port of Prescott, that port on the St. Lawrence becomes the actual foot of Great Lakes navigation when the New Welland Ship Canal is opened next Fall to the largest ships on the Great Lakes.

The next section, extending to the northerly and westerly end of the New York State line, is that part of the St. Lawrence, which, according to the recommendations of our Federal Government, is to be made into a joint shipway and power development project. From Prescott to Montreal, the existing St. Lawrence waterway for navigation purposes, consists of a series of 14-foot depth artificial canals with locks. The proposal to create a ship canal of 27-foot depth in place of the existing 14-foot canals is the "St. Lawrence Shipway to the Sea" project.

The Thousand Islands section is 67 miles in length and the International section to be improved is 48 miles long. The adjoining section, from the northerly New York State line to Montreal is the purely Canadian section and is approximately 68 miles in length, making a total of 183 miles from Lake Ontario to Montreal.

The Montreal grain trade consists largely of reshipments from Buffalo and Port Colborne loaded into what is termed Welland Canal type of steamers, drawing less than 14 feet of water.

THE POWER PHASE OF THE ST. LAWRENCE PROJECT

Quebec and Ontario are producing 80% of all the electric power in Canada. Within two years Quebec's power output has come to exceed that of Ontario. Between 1925 and 1927 the output of power in Quebec rose from 3,800,000,000 k.w.h. to 6,400,000,000 k.w.h., while Ontario's rose from 4,600,000,000 k.w.h. to 5,600,000,000 k.w.h., Quebec's increase being two and a half times that of the sister province.

In contrast with Ontario, which operates its own Provincial hydro-electrical generating plants, Quebec, confronted with the possibilities of a harnessed, canalized St. Lawrence, definitely elected private ownership as its future policy.

Quebec needs more hydro-electric power. Work is now actually under way in the purely Canadian section of the St. Lawrence where the great Beauharnois power and navigation project is being undertaken and where it is planned to develop two million horse-power ultimately. The existing project calls for 500,000 H. P. A minimum of 200,000 H. P. is to be available October, 1932.

The agreement between the Canadian government and the Beauharnois Power Corporation includes, in addition to graduated water rentals, clauses which provide that a new 16-million dollar canal is to be built for navigation purposes and maintained in accordance with deep water navigation requirements.

The agreement with the Canadian Government further provides that the management and ownership shall continue in the hands of Canadians, and that power transmitted shall not be distributed outside Quebec or Ontario provinces. The Beauharnois Power Corporation will make an adequate return to the government in taxes for the rights it is to receive.

Of deep significance to this country, and particularly to the Northeastern states, is the Canadian restriction that none of the power to be developed in the purely Canadian section shall be exported to the United States.

Ultimately the Province of Quebec is to obtain an annual revenue and royalty amounting to about \$550,000. With the eventual development of more than 500,000 H. P. this sum will be increased by more than \$1.00 per horsepower generated about that amount.

The deep water canalization of the St. Lawrence is becoming a reality. While the Great Lakes Tidewater Association with much oratory has been demanding the canalization of the St. Lawrence, the Canadian Government has been proceeding along economic lines, and in its own way, to do this very same thing—not for navigation—but for power.

The completion of the first phase of the Canadian development in Quebec by October of 1932 opens up a great stretch to deep water navigation.

The National Advisory Committee of Canada recommended to the Government at Ottawa in its report, that they propose developing the Cana-

dian or Quebec section of the St. Lawrence river first, allowing time for absorption of the power produced, before proceeding with the International section. This is actually what is being done now in the case of Beauharnois; and the Lachine section will, no doubt, follow in the near future.

Of particular interest, in connection with what appears to be a definite policy on the part of Canada, in the development of power in the St. Lawrence, is the following excerpt from President Hoover's Louisville address:

"One of the most vital improvements to transportation on the North American Continent is the removal of the obstacles in the St. Lawrence River to ocean-going vessels inward to the Great Lakes. Our Nation should undertake to do its part whenever our Canadian friends have overcome those difficulties which lie in the path of their making similar undertakings.

"I may say that I have seen a statement published lately that this improvement would cost such a huge sum as to make it entirely uneconomical and prohibitive. To that I may answer that after we have disposed of the electrical power we could contract the entire construction for less than \$200,000,000, divided between the two governments and spread over a period of 10 years."

That the Administration now accepts that Canada alone holds the key to the unlocking of the St. Lawrence for deepwater navigation and that oratory and legislation in Congress have no bearing on this project is seen in President Hoover's Message to Congress on December 3d. In reference to the St. Lawrence proposal, he used but twelve words. He said: "*We are awaiting the action of Canada upon the St. Lawrence waterway project.*"

The Dominion Parliament's ratification of the plan of the National Advisory Committee of Canada for additional hydro-electric power in the province of Quebec is in contrast to our own Senate at Washington. The Senate has had before it and failed to approve a protocol for the preservation and improvement of Niagara Falls and providing for an additional diversion of water for power purposes. This protocol had the approval of Prime Minister W. L. Mackenzie King and former President Coolidge.

[The Dominion parliament legislates for the economic betterment of Canada—while our Senate is functioning through blocs—each bloc legislating to advantage itself as was shown during the special session this summer.]

This proposal for remedial works and additional diversion of water at Niagara Falls is the recommendation of a Special International Niagara Board which was established in 1926 by the Government of the United States and the Government of the Dominion of Canada, to study and submit to the two Governments a report upon certain questions relating to the Niagara Falls and the Niagara River.

Today, Buffalo and the entire Niagara area need more power. Because of the failure of the Senate to ratify this agreement between the two countries for remedial works in Niagara River and for an additional water diversion, steam plants in Buffalo are either in operation or in process of construction, calling for the development of 540,000,000 H. P., to be in use within the next three or four months. This is a greater generation by 100,000 H. P. than is generated by Hydro on the American side. With no more water available at Niagara Falls for power purposes under present treaty, steam units must be built, and are being built, to keep abreast of the constantly

increasing demand for electric energy for industrial purposes in the Buffalo Metropolitan District. (Within a decade the demand for electric power for purely industrial purposes within the city limits, alone, has grown from 55 million k.w.h., to 633 million k.w.h. in 1928.)

The natural advantages of the Niagara Region and the engineering skill of those in charge of its power resources have enabled that territory to develop industrially with the aid of cheap electrical energy. Recent consolidations will make it not only possible to continue low rates to industry but ample capital has been provided for the construction of more power plants. As the plans for additional diversion at Niagara Falls also provide for scenic preservation and all navigation levels, it is expected that Congress will act favorably upon the agreement between the two countries as recommended by the Special International Niagara Board.

CONCLUSION

While it is becoming increasingly evident that the St. Lawrence project cannot justify itself as a navigation necessity, still it can be clearly seen that with the Canadian Government opening up the Canadian section of the St. Lawrence for power purposes, and with the requirement that developing companies must provide deep water navigable canals as a part of the power project, it is but a question of time before the remaining stretch of 48 miles in the International section must, too, be developed for power purposes, and when this is done, the St. Lawrence becomes a deepwater shipway to the sea.

Therefore, the gradual process of power development in the St. Lawrence, will, of its own accord, create ultimately a St. Lawrence shipway.

POSSIBLE EFFECT OF THE ST. LAWRENCE SHIPWAY ON THE PORT OF BUFFALO

As far as studies have progressed it is found that recognized water transportation authorities at Montreal and also some in Buffalo hold that the St. Lawrence deep waterway would not change, to any great extent, the present method of handling grain on the Great Lakes. It is held that ocean-going ships, as a general rule, cannot profitably proceed through a canal system to the head of the lakes for grain cargoes. There are many reasons for this, the chief of which is that they are not likely to be able to compete with upper lake type of bulk carriers. Transfers of grain cargo would continue to take place at Buffalo and Canadian ports.

Representative Great Lakes vessel owners state that it is their experience that import freight destined to points as far west as Chicago or Duluth does not move in sufficient volume at one time to create a sufficiently large cargo for any ocean vessel to profitably penetrate to the upper lake ports for that alone and that ocean vessels will only go to the upper lake ports when they are assured a full eastbound cargo of either grain or grain products.

Penetration of large liners is, of course, out of the question and they carry nearly one hundred per cent of the general cargo, or package freight, as has been demonstrated by Dr. Moulton.

Experience of several years past has demonstrated, through the efforts of various tramps to secure profitable cargoes, that it could not be done because the delay to vessels in waiting to accumulate a sufficient cargo, even of mixed grain and grain products and manufactured articles, was such that the lost time offset in revenue what they could get out of the traffic, the difficulty being to get sufficient quantity going to one or even two Trans-Atlantic ports.*

The number of ocean-going ships coming up to the lakes will be small because of inability to successfully compete with the bulk freight carrier of the Great Lakes, and very few of them will carry out grain. Special insurance premiums for navigation west of Montreal, tugs, pilots, slow canal navigation and numerous ports of call to pick up and deliver cargo, with attendant delay and port expense, would serve to keep down the number.

Buffalo now ranks as the world's greatest grain distributing center. With the advent of the St. Lawrence Shipway, it seems reasonable to assume that the Port of Buffalo will still continue to rate as a great grain distributing center.

* More than thirty Norwegian and Danish ships crossed the ocean early in 1928 for the express purpose of participating in the Great Lakes grain trade and to return to Europe with full cargo at the close of navigation.

MONTREAL

Montreal ranks as the world's greatest grain exporting port and a large percentage of all grains handled is United States. Shipping is practically closed in Montreal as early as the 25th of November and not later than the 30th, on account of heavy increases in insurance premiums after the 25th. In order to get grain from lakehead as far as Montreal in time to transfer through the elevators to ocean steamers, it must necessarily leave lakehead ports not later than the first week of November. Ocean ships endeavoring to carry cargoes direct would have to leave lakehead at that time or sooner in order to allow a safe margin to ensure their getting out to salt water before the freeze-up. After the first week of November, there still remains a full month to transport grain—the heaviest traffic period—to Bay ports and Buffalo. Of course, grain begins to move to these transfer ports before the first week of November for the simple reason that the whole lake grain fleet is not going to rush millions of bushels to Montreal at the eleventh hour, marking the close of St. Lawrence navigation.

Even during the Spring, navigation opens on the Upper Lakes at least three weeks before ocean ships are reaching Montreal in any volume. Again, there are always vessels sailing out of New York, Philadelphia and Baltimore to ports not served by Montreal services, which naturally attract quantities of grain through Buffalo during the whole of the season.

The port of Saint John is Canada's principal winter port on the Atlantic, and ranks third after Montreal and Vancouver in the total volume of traffic handled throughout the year.

The annual report of the Saint John Harbor Commission shows that for the year 1928, there were 23,211,769 bushels of grain shipped from the port, of which, over half was U. S. grain—12,188,227 bushels.

Reference is made to the ports of Montreal and St. John as Canadian ports through which a large volume of United States grain passes for export so that it will be obvious that grain knows no nationalism when going to world markets—and to point out that Canadian and U. S. grain for export uses the transportation facilities and ports of both countries to reach the North Atlantic Seaboard.

During the calendar year 1928 Montreal handled 211,295,379 bushels through the port. Up to November 23, 1929, shipments through the Port of Montreal amounted to 85,831,656 bushels of grain, a decrease of 125 million bushels, due to the lack of world market for grain from North America.

ADDENDA

Prior to the Canadian rail rate cut in 1927, made in furtherance of the Canadian national policy of securing for the Dominion the domination of the carriage of Canadian grain to Canadian Atlantic and Pacific ports for export, the Canadian Board of Railway Commissioners made a very complete survey of the entire grain movement and below is the summary of the Board's findings:

The following extract is taken from the Board of Railway Commissioners for Canada, Judgments, Orders, Regulations and Rulings—Ottawa, September 12, 1927:

"A short restatement of the situation regarding the export of Canadian grain by Canadian Atlantic Ports may be given as follows:

- (1) Canada has three routes from the prairies to the Atlantic:
 - (a) Lake-and-Canal;
 - (b) Lake-and-Rail;
 - (c) All-Rail.
- (2) As water haul under ordinary conditions is fundamentally cheaper than rail haul, the lake-and-canal and lake-and-rail routes are used and the all-rail route ignored.
- (3) The U. S. lake-and-rail route by way of Buffalo to New York, Philadelphia and Baltimore competes effectively with the Canadian lake-and-canal and lake-and-rail route to Montreal.
- (4) The immensely greater number of ocean vessels bringing merchandise from Europe to United States Atlantic ports than to Montreal creates a proportionately greater demand for grain as return cargo at these ports than at Montreal.
- (5) Ocean rates fluctuate with traffic conditions. There being greater demand for return grain cargoes at New York than at Montreal, ocean rates are lower and the advantage of Montreal in the lower rates by the lake-and-canal and lake-and-rail routes is thereby cancelled.
- (6) Canada has a greater tonnage of export wheat than of import merchandise. The excess of wheat over merchandise tonnage takes the New York route, because by doing so it gets a return ocean rate.
- (7) The all-rail rates from the prairies to the seaboard are maintained at a level that excludes the grain traffic from the railways and, therefore, excludes it from the Canadian Atlantic ports beyond Montreal, which must depend upon railway service to share in that traffic.
- (8) The lake-and-canal and lake-and-rail routes are subject to certain disadvantages as compared with all-rail:
 - (a) In the short period between the commencement of grain delivery after harvest and the close of navigation on the St. Lawrence, the slower movement by lake and rail in large measure cancels the advantage of lower rates.
 - (b) The transfer, storage and incidental charges by lake-and-rail bring the total cost from prairie to seaport up to the level of a fair long-haul all-rail rate.
 - (c) Lake navigation is closed for from four to four and a half months during the year.
 - (d) Because of closed navigation on the lakes, there is a rush to get the grain across in the fall which adds to the actual cost and introduces an extra speculative element.

- (e) Grain that does not get across the lakes in the fall is held out of world consumption for the winter and may miss the best market. In any case it meets the competition of new Australian and Argentine wheat during the following summer.
- (9) The same per mile rail rate that Alberta grain now pays for the haul to Fort William would give a total cost to haul to Quebec substantially below the present lake-and-rail cost to New York.
- (10) With Quebec's advantages as an ocean port that margin might be expected to be sufficient to attract vessels seeking one-way cargo.
- (11) Grain could be stored at Quebec during the season of closed navigation as it now is at Fort William, the railways getting the haul that now goes to United States lake and rail carriers.
- (12) Grain in store at Quebec could be readily forwarded to St. John or Halifax as required to give return cargoes of grain to vessels bringing merchandise to those ports.
- (13) By using the rail haul from the prairies to the St. Lawrence ports in summer and to the Maritime ports in winter, the railways could earn the money that is now paid to United States vessels and railways; Canadian producers would be in reach of the world's markets throughout the year; the rush and congestion that now occurs in the fall season would be avoided; the producer would save paying for winter storage until he desired to sell; the railways could give continuous employment to their operating men, and while their profit on the haul per bushel would be less, their gross earnings would be greater and probably their net profit as well.
- (14) Of the 4½ million tons of grain which left Canada at Fort William in the past crop season to be carried overseas through United States seaports, Canadian railways had hauled it an average distance of over 800 miles. United States carriers earned over 15 million dollars in taking it from Fort William to the seaboard. The question is, Can the railways which hauled the grain to Fort William afford to haul it 950 miles further for that amount of money? If not, Canada has several hundred million dollars worth of railways on hand that are not fulfilling the purpose for which they were built. But if they can, and do, Canada, the greatest export producer of the commodity in greatest and most assured world demand, will have a leverage in world trade that should be of immense benefit to the country as a whole, as well as to the seaports, railways and farmers immediately concerned."

An analysis of the Canadian policy will show that neither a reduction of rates in this country nor the building of waterways for the movement of grain to seaboard can compete with Canada in the matter of rates.

GREAT LAKES TONNAGE

This statement of statistics of the commerce of the United States is for the season of 1926, and it shows that the Great Lakes tonnage comprised more than 25 % of all the waterborne tonnage handled in and on the United States ports and waterways. *It was three times the Pacific Coast traffic; two and one-half times the Gulf Coast traffic; and more than two-thirds the Atlantic Coast traffic. It was larger than the tonnage handled on all the rivers and other inland waterways in the United States.* Its relative importance to all other inland waterway traffic is not correctly represented by the tonnage because the length of haul is much greater on the lakes. *Of a total ton-mileage of more than 99,500,000,000 for all inland traffic, that on the Great Lakes consisted of more than 90,000,000,000 and all others of 9,500,000,000, or a ratio of nearly 10 to 1.* This does not include the foreign traffic on the lakes, which constitutes more than 12 % of the total lake traffic. The inland waterways of the United States consist of the rivers, canals, and connecting channels and the Great Lakes System.

The bulk of the freight carried on the Great Lakes consists of articles fundamental to the industrial life of the Nation and of foodstuffs for man and beast. The following commodities constitute the 1928 bulk freight movement on the Great Lakes:

Iron ore	60,456,679 net tons
Bituminous Coal	33,402,121 net tons
Anthracite Coal	1,420,881 net tons
Grain	16,372,116 net tons (575,746,382 bu.)
Limestone	15,677,551 net tons

UNITED STATES AND CANADIAN GREAT LAKES' FLEET

Cargo capacities of United States and Canadian "bulk freighters" operating on the Great Lakes are based upon a 19-foot draft, that draft having been reverted to a few years ago when the lake levels were lower than at present.

On the 19-foot draft basis, there are approximately 241 United States steamers that have a carrying capacity of 7,000 or more gross tons and a trip capacity of 2,290,550 gross tons.

The Canadian fleet has 17 vessels of 7,000 tons or more capacity, aggregating 163,100 gross tons per trip.

If we assume the basis of 20 feet, we find there are some 288 United States and 28 Canadian ships of over 7,000 gross tons capacity in the Great Lakes trade. The 288 United States ships are carrying cargoes of ore, limestone, coal and grain. On the other hand, the 28 Canadian ships, within the same range of carrying capacity, have no ore or coal in any volume to furnish cargoes.

The United States fleet's great superiority of carrying tonnage, eleven times more than the Canadian, is striking when reduced to total tonnage capacity: On 20-foot draft, United States 2,676,000 tons; Canadian, 236,000.

CANADIAN GRAIN PRODUCTION

The following figures, which are supplied by the Dominion Bureau of Statistics, indicate the grain production in bushels for 1928 and this year's production as of November 13, 1929. Reduction is due to the general drought existing during 1929 throughout North America.

TOTAL, DOMINION OF CANADA

	1928	1929
Wheat	566,726,000	293,899,000
Oats	452,153,000	280,270,000
Barley	136,391,400	100,467,000
Rye	14,617,700	12,919,000
Peas	2,588,300	2,195,600
Beans	1,170,500	1,364,000
Buckwheat	10,899,300	10,899,000
Mixed Grains	39,130,000	33,820,000
Flaxseed	3,614,400	2,007,000

PRAIRIE PROVINCES

	1928	1929
Wheat	544,598,000	271,607,000
Oats	297,676,000	137,574,000
Barley	112,684,000	78,428,000
Rye	13,158,000	11,688,000
Flaxseed	3,519,400	1,909,000

Estimated capacity, in bushels, of elevators at leading U. S. grain storage centers, January 1, 1929, according to "Northwestern Miller":

Minneapolis	66,835,000
Chicago	53,203,000
Duluth	43,950,000
Buffalo	41,465,000
Kansas City	41,155,000
St. Louis	11,649,500
Milwaukee	11,540,000

MILLING IN BOND

Fifty million bushels of wheat are consumed in Buffalo in the manufacture of flour. Included are approximately 15 million bushels of Canadian wheat used in the manufacture of flour here. If this amount of Canadian wheat were not used in manufacture here, it would simply move on in the great grain flow as bulk wheat to European ports, there to be manufactured into flour on a world price level basis.

It is not possible to substitute American wheat for this particular type of export flour and if Buffalo did not manufacture, using a percentage of the Canadian wheat, that manufacturing business would be lost to the United States in its entirety. There is an import duty of 42 cents per bushel on wheat but the privilege of milling in bond gives Buffalo the right to manufacture flour for export and were this privilege taken from Buffalo, that business either in the bulk wheat or in manufactured flour would revert to Canada and Europe.

FROM THE HEAD OF THE GREAT LAKES TO BUFFALO AND THE ATLANTIC

SEABOARD

BUFFALO CHAMBER OF COMMERCE
SEPTEMBER 1922



